Prelim Bits 06-03-2024 | UPSC Daily Current Affairs

MethaneSAT

Recently, MethaneSAT was launched aboard a SpaceX Falcon9 rocket from California, USA.

- **Aim** – To *track and measure methane emissions* at a global scale.
- To identify how much methane is coming from where, who's responsible, and are those emissions going up or down over time.
- **Promoting entity** – *Environmental Defense Fund* (EDF), a US-based non-profit environmental advocacy group.
- **Developing partners** – Harvard University, the Smithsonian Astrophysical Observatory, and the New Zealand Space Agency.
- **Mission partner** – *Google*

While MethaneSAT is not the 1st spacecraft to identify and quantify methane emissions, it will provide more details and have a much wider field of view than any of its predecessors.

- **Features** – It is a washing-machine-sized satellite that will *orbit the Earth 15 times a day*, monitoring the oil and gas sector.
- High-resolution IR sensor and a spectrometer can track differences in concentrations as small as *3 parts per billion* in the atmosphere.
- It also has a wide-camera view of about *200 km by 200 km*.
- The collected data will be analysed using cloud-computing and AI technology developed by Google.
- **Advantages** – Unlike previous satellites, it can pick up *smaller emissions sources as well as larger emitters* called 'super emitters'.
- It promotes *transparency by making the data public* for free in near real-time through Google's Earth Engine platform.
- It *ensures accountability* by allowing stakeholders and regulators to take action to reduce methane emissions.
- It will *help the nations* in achieving their global commitments to reduce methane emissions with real time tracking.
- **Limitations** – However, it does not necessarily mean that the data will compel polluters to curb their emissions and there's no guarantee that this information leads to a change in behaviour.

Methane Gas

• It is an *invisible* but strong *greenhouse gas*.
• **Source** – Fossil fuel operations account for about 40% of all human-caused methane emissions.
• **Warms earth** – It is the *2nd largest contributor* to global warming after CO2.
• According to the UNEP, over a period of 20 years, methane is 80 times more potent at warming than carbon dioxide.
• **Forms ground-level ozone** – A colourless and highly *irritating gas* that forms just above the Earth's surface whose exposure could be contributing to 1 million premature deaths every year.
• **Measures** – *Global Methane Pledge* was signed by more than 150 countries in 2021, to cut their collective methane emissions by at least 30% from 2020 levels by 2030.
• At COP28 in 2023, 50 companies responsible for 40% of global oil production have agreed to virtually eliminate their methane pollution.

References

1. The Indian Express| Launch of MethaneSAT
2. MethaneSAT| Specifications of MethaneSAT

Women, Business and the Law Report 2024

The 10th edition of the women, business and the law report was published recently.

- An *annual studies* measuring the laws that affect women's economic opportunity.
- **Published by** – ***World bank***
- **Coverage** – ***190 economies.***
- **For the 1st time** – It analysed the *impact of childcare & safety policies* on women's participation in the labour market.
- It presents a new approach *to measure the implementation gap* between laws (de jure) and how they function in practice (de facto).
- **10 indicators** – Safety, Mobility, Workplace, Pay, Marriage, Parenthood, Childcare, Entrepreneurship, Assets, and Pension.

Key Findings of the Report

- **Workplace** – No country in the world affords women the same opportunities as men in the workforce.
- **Global gender gap** – It was far wider than previously thought and closing this *could raise global GDP by more than 20%.*
- **Pay** – Globally, women earned *just 77 cents of each dollar* earned by a man.
- **Pension** – In 81 countries, a woman's pension benefits do not account for periods of work absences related to childcare.
- **Parenthood** – Less than 50% the countries had financial support or tax relief for parents of young children.
- **Safety** – 151 countries had laws against sexual harassment in the workplace but only *40 countries had laws that covered abuse in public areas* or on public transport.

- **Childcare** – Addressing the childcare gap would immediately lead to a *1% increase in women's participation* in the labour force.
- **Legal gap** – Countries on average, established less than 40% of the systems needed for full implementation.
- Women on average enjoyed *just 64% of the legal protections men do*, down from the previous estimate of 77%.

References

1. The Guardian| No equality for Working Women in any Country
2. World Bank| Women, Business and the Law 2024

Lac bangles

The lac bangles known for their unique craftsmanship and historical significance have received Geographical Indication (GI) Tag.

> ***Geographical Indication (GI) tag*** *is a form of certification that recognises unique products based on their origin which can be natural or man-made. India has enacted Geographical Indications of Goods (Registration & Protection) Act, 1999 for this purpose.*

- **Lac Bangles** – A *traditional form of jewellery* made from natural resin and adorned with *colourful stones and beads*.
- **Location** – Hyderabad.
- **Type** – Handicrafts.

> *Lac Bangles is the 2nd GI tag for a Hyderabad product after Haleem. It is the 17th product from Telangana to receive the recognition.*

Origin of Lac Bangles
• Though the exact origin is not clear, historians say that the 1st bangle was manufactured during the *late Qutub Shahi period, about 300 to 350 years ago.* • **Laad Bazaar,** where they are sold, may have emerged during the reign of Nizam VI Mir Mahbub Ali Khan, its history predates the Asaf Jahi rule. • **Artisans** – Some say they were *Unani Hakeems of Iran* who came to the city during Qutub Shahi period took this as a secondary source of income. • Other sources say that it belong to *artisans from Vijayanagara Empire*, who settled down in the city. • **Material used** – It may have been studded with *pure diamonds* when they were 1st made as Golconda kingdom was known for its diamond mines and bazars. • Over time, diamonds gave way to *decorative stones.*

- **Making** – It is crafted *from lacquer derived from resin*, undergo a meticulous process like being melted in furnaces before being *embellished with crystals, beads or mirrors*.

- **Significance** – It will serve as a catalyst to uphold uncompromising *quality standards and foster innovation* in design among the 6,000-plus artisan families.

Reference

Times of India| Lac Bangles receives GI Tag

Narasapur Crochet Lace

Narasapur crochet lace craft gets Geographical Indication tag.

> ***Crochet** is a form of chain-stitch embroidery done with a hook instead of a needle. **Lace** is a delicate fabric made of yarn or thread in an open web like pattern, made by machine or by hand.*

- GI Tag – The Department of Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry registered the craft in the Geographical Indications Registry (GIR).
- **Geographical limits** – 19 mandals in West Godavari and Dr. B.R.Ambedkar Konaseema districts in the Godavari region.
- **Originated in** – Narsapur, Andhra Pradesh.
- In *1844, Macrae and his wife from Scotland* taught the lace craft to the local women during their missionary activities at Dummugudem (presently in Telangana).
- It has *survived the Indian famine (1899) and the Great Depression* (1929).

> *In the year 2004, the 1st of its kind lace park in India was established in Narasapur.*

- **The lace work** – It is done using thin threads and these are again woven with thin crochet needles of varying sizes.
- **3 categories of products made of lace** — Garments, home furnishings and accessories.
- It includes Doilies, pillow covers, cushion covers, bed spreads, hand purses, caps, tops, table-runners, and table cloths etc.
- These artistically woven lace products are gifted as souvenirs.
- **Available colours** – Orange, green, blue, white, red, and beige.

- **Exported to** – Countries like UK, USA, France, etc.

- **Significance** – It empowers women as an estimated *60% of the artisans involved in the craft are women*.
- It will help *revive demand* for the craft in global market where China's machine-made lace products are dictating terms.

Reference

The Hindu| GI Tag for Narasapur Crochet Lace

Majuli's Mukha Shilpa & Manuscript Paintings

Majuli in Assam gets the prestigious Geographical Indication (GI) tag for its mask-making and manuscript painting.

> ***Majuli*** *in Assam is the largest river island in the world.*

- **A GI tag –** It is conferred upon products originating from a specific geographical region, signifying unique characteristics and qualities.
- **Majuli's Mukha Shilpa** – They are traditional handmade masks.
- **Origin** – They have been made in Assam's sattras, or monasteries, since the *16th century.*
- They depict characters in bhaonas with devotional messages under the *neo-Vaishnavite tradition*.
- **Themes** – Gods, goddesses, demons, animals and birds.
- **Types**
  - **Mukha bhaona face mask** – It covers the face.
  - **Lotokoi hanging mask** – Bigger in size extends to the chest.
  - **Cho Mukha huge mask** – It is a head and body mask.
- **Materials used** – Bamboo, clay, dung, cloth, cotton, wood, etc.,

Arts in Neo-Vaishnavite tradition
• **Neo-Vaishnavism** – It was introduced by the 15^{th}-16^{th} century reformer saint Srimanta Sankardeva. • **Sattras** – They are monastic institutions established by Srimanta Sankardev and his disciples as centres of religious, social and cultural reform. • They are also centres of traditional performing arts - Borgeet (songs), xattriya (dance) and bhaona (theatre). • Majuli has 22 sattras. • Samaguri Sattra had been practising mask-making since its establishment in 1663.

Majuli manuscript painting

> *A form of painting, also originating in the 16th century.*

- **Themes** – Illustrated numerous stories and chapters taken from the great *Hindu epics* Ramayana, Mahabharata and above all subjects from the Bhagavata Purana.
- **Material** – It is done on sanchi pat, or manuscripts made of the bark of *the sanchi or agar tree*, using homemade ink.
- **Earliest example** – A rendering of the Adya Dasama of the Bhagwat Purana in Assamese by Srimanta Sankardev.
- **Patronised by** – *The Ahom kings*.
- It continues to be practised in every sattra in Majuli.

Reference

The Indian Express| GI tag for Majuli Masks and Manuscript paintings

Other Important Topics
Shehbaz Sharif
PM congratulates Shehbaz Sharif on being sworn in as Pakistan Prime Minister. • Shehbaz Sharif of Pakistan Muslim League-Nawaz (PML-N) party takes the oath as Prime Minister of Pakistan for the 2nd time. • As per Pakistan's constitution, a party must win 133 out of the 265 contested seats in the 266-member national assembly to form a government. • Pakistan lies just north of the ***Tropic of Cancer***, bordering Iran, Afghanistan, China and India.
Sangam: Digital Twin initiative
• **Aim –** To revolutionize infrastructure planning and management. • The initiative was launched by the ***Department of Telecommunications (DoT).*** • It welcomes Expressions of Interest (EoI) from industry leaders, startups, MSMEs, academia, innovators, and forward-thinkers. • **Digital Twin technology** offers a solution by creating virtual replicas of physical assets, enabling real-time monitoring, simulation, and analysis and feedback loops to achieve optimal outcomes.
Dak Karmayogi
The Department of Posts recently released the Special Cover commemorating successful journey of 2nd phase of Dak Karmayogi Project. • Dak Karmayogi is an *e-learning portal* of the ***Department of Posts***. • This portal has been developed 'In-House' under vision of '***Mission Karmayogi'.*** • To recognize the good performance of employees of Department of Posts, Meghdoot Awards were conferred in 8 different categories. • **Meghdoot Award** is the highest award of Department of Posts at National level for overall performance and excellence introduced in 1984.
Gevra Coal Mine

The coal ministry recently said that Gevra mine, operated by South Eastern Coalfields Ltd (SECL) in Chhattisgarh, has received environmental nod for expansion.

• Gevra mine got the environmental clearance to boost its production capacity to 70 million tonnes per annum.
• The expansion will position Gevra as the ***largest coal mine in Asia,*** overtaking ***Indonesia's Sangatta mine*** in coal production.
• The expansion aligns with India's aim of achieving self-sufficiency in coal production and phasing out imports for power generation by the fiscal year 2025-26 (FY26).

India's 1st underwater metro

Prime Minister will inaugurate India's 1st under-river metro tunnel in Kolkata.

• The metro tunnel has been built under ***Kolkata's Hooghly River*** that will connect Howrah Maidan to Esplanade.
• With this, Kolkata Metro joins elite club of London, Moscow, Munich metros.
• The Howrah metro station is also the deepest in India.

Commission on Status of Women

Pune's Dr Eeshani Bendale will join the United Nations Women UK Commission on the Status of Women as a delegate.

• The Commission on the Status of Women (CSW) is the ***principal global intergovernmental body*** exclusively dedicated to the promotion of gender equality and the empowerment of women.
• It is a functional commission of the Economic and Social Council (ECOSOC) established by UN Economic and Social Council resolution of 1946.
• **Secretariat** - UN Women.
• CSW membership comprises ***45 States*** elected by ECOSOC on the basis of equitable geographical distribution.
• India was elected to the CSW for ***4 years*** from 2021 to 2025.

2008 OS7

NASA has captured the images of a stadium sized asteroid that passed by Earth recently.

• 2008 OS7 asteroid is an Apollo class Near-Earth object (NEO) that orbits the sun once every ***2.6 years***, traveling from within the ***orbit of Venus to beyond the orbit of Mars.***
• The ***Catalina Sky Survey***, a NASA-funded project that searches for NEOs, discovered this asteroid in 2008.
• The asteroid classified as ***"potentially hazardous"*** because of its large size and close approach to Earth, but it poses no threat of impact for at least the next 200 years.

Africa Club

• Africa club is an ***Alliance of African Multilateral Financial Institutions*** (which are African owned and controlled).
• **Launched** - 37th African Union Summit.
• It aims to amplify Africa's influence in the global financial system by aligning its functions with the Sustainable Development Goals and the ***African Union's Agenda 2063.***
• **Members**
- African Export Import Bank,
- Trade and Development Bank,
- Africa Finance Corporation,
- African Reinsurance Corporation,
- African Trade and Investment Development Insurance,
- Shelter Afrique Development Bank and ZEP – RE (PTA Reinsurance Co).

Salma Dam

• Salma Dam is a ***hydroelectric power project*** that built on the ***Hari River*** in Afghanistan's Herat province.
• It was funded by the Indian government and officially known as ***India-Afghanistan Friendship Dam*.**
• The plant has a power generation capacity of 42 MW and is also a major irrigation resource.

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